

## REMARKS

Favorable reconsideration of this application, in light of the following discussion and in view of the present amendment, is respectfully requested.

Claim 1 is amended. Claims 1-14 are pending.

### Entry of Amendment under 37 C.F.R. § 1.116

The Applicant requests entry of this Rule 116 Response because: the amendments were not earlier presented because the Applicant believed in good faith that the cited references did not disclose the present invention as previously claimed; and the amendment does not significantly alter the scope of the claim and places the application at least into a better form for purposes of appeal. No new features or new issues are being raised.

The Manual of Patent Examining Procedures (M.P.E.P.) sets forth in Section 714.12 that "any amendment that would place the case either in condition for allowance or in better form for appeal may be entered." Moreover, Section 714.13 sets forth that "the Proposed Amendment should be given sufficient consideration to determine whether the claims are in condition for allowance and/or whether the issues on appeal are simplified." The M.P.E.P. further articulates that the reason for any non-entry should be explained expressly in the Advisory Action.

#### **I. Rejection under 35 U.S.C. § 102**

In the Office Action, at page 2, numbered paragraph 4, claims 1-3, 7 and 8 were rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 2005/0109836 to Ben-Aissa. This rejection is respectfully traversed because Ben-Aissa does not discuss or suggest:

a fingerprint image storing part storing representative reference fingerprint images for at least two fingers of a user and at least one auxiliary reference fingerprint image for registered users; and  
a control part determining whether one of the representative reference fingerprint images matches a first input fingerprint image input through the fingerprint scan part, reading auxiliary reference fingerprint images corresponding to a matching representative reference fingerprint image, and comparing other fingerprint images input after the first input fingerprint image with the auxiliary reference fingerprint images to determine user authentication,

as recited in amended independent claim 1.

In Ben-Aissa, an employee is registered by providing about three images of a finger, such as the left index finger, to the fingerprint reader 30 of terminal 20 of the system for

subsequent comparisons during future uses of the terminal 20. The fingerprint image is captured after pressing a button, displayed on the screen, compared to acceptable and unacceptable images, and the employee is prompted to decide whether to accept the captured image as a reference for future comparison efforts. If the first captured image is accepted, the terminal 20 may then request that additional images of that fingerprint be entered and captured for future comparison purposes. When the appropriate number of images has been captured, the employee is instructed to remove his/her finger from the fingerprint reader 30.

First, Ben-Aissa discusses only storing a reference fingerprint image for a single finger. There is no indication in Ben-Aissa that representative reference fingerprint images for at least two fingers of a user are stored. Ben-Aissa suggests only that multiple images are input for one finger for future comparison purposes only for that finger.

Second, with respect to the Examiner's first interpretation of "auxiliary reference fingerprint images," Ben-Aissa does discuss capturing a first fingerprint image and then requesting that additional images of the fingerprint be entered and captured for future comparison purposes. However, Ben-Aissa also discusses that in authentication, "[t]erminal 20 then compares the fingerprint from fingerprint reader 30 with fingerprint scans that were made when the employee was first registered...[and] [i]f the fingerprint reading is matched with a fingerprint on file,...the next screen to appear on terminal 20 may be the screen in FIG. 9D requesting further information, such as an employee number,..." Ben-Aissa therefore does not discuss or suggest that representative reference fingerprint images for at least two fingers of a user are stored and also at least one auxiliary reference fingerprint image is stored.

In addition, Ben-Aissa does not discuss or suggest "reading auxiliary reference fingerprint images corresponding to a matching representative reference fingerprint image." Specifically, for future authentication purposes, the first entered fingerprint image and the three additional fingerprint images are entered for future comparison purposes which all correspond to a single finger of a user. However, the three additional fingerprint images in Ben-Aissa are used only to ensure that enough quality images of the same exact image are in the system, so that if the first fingerprint image does not match the user's later-submitted fingerprint image, there are other, correct fingerprint images that are able to be compared with the later-submitted fingerprint image. There is no indication at all in Ben-Aissa, though, that those three additionally captured images are associated with or correspond to a matching fingerprint image. In fact, if the fingerprint image that was first entered in the authentication process matches with the later-submitted fingerprint image, there is absolutely no reason in Ben-Aissa to then read the

additional three fingerprint images, since a match has already been made between the first fingerprint image and the later-submitted fingerprint image that is submitted during authentication. Specifically, there would be no reason in Ben-Aissa, under the Examiner's interpretation, to perform "comparing other fingerprint images input after the first input fingerprint images with the auxiliary reference fingerprint images to determine user authentication" because in the initial matching of the input fingerprint image with the first fingerprint image that was previously saved, if the input fingerprint image matches with the first saved fingerprint image, there is no reason to move on to the other three additional images that were entered for future authentication purposes. If the match has been made in Ben-Aissa, no additional authentication is necessary.

In contrast, in the present invention of claim 1, for example, a determination is made as to whether one of the representative reference fingerprint images matches a first input fingerprint image (i.e, the left thumb), auxiliary reference fingerprint images (i.e., the left index finger and left pinkie finger, which has been previously saved to correspond with the image of the left thumb) corresponding to the matching representative reference fingerprint image are read and other fingerprint images input after the first input fingerprint images are compared with the auxiliary reference fingerprint images to determine user authentication.

Additionally, Ben-Aissa discusses that after the first captured image is accepted, **not matched** with another fingerprint image, the additional images of the fingerprint may then be entered and captured. That the fingerprint image that was first captured will **later** be matched during authentication does not indicate that Ben-Aissa reads auxiliary reference fingerprint images that correspond to a matching representative reference fingerprint image.

As to the Examiner's allegation that PIN numbers, etc. could correspond with "auxiliary fingerprint images," the Applicant strongly disagrees with the Examiner's interpretation. First, the claims recite "fingerprint image." None of the claims recite "image" or "other predetermined image." Therefore, it is entirely unclear as to the interpretation by the Examiner that the term "fingerprint image," which is exceptionally clear on its face, could possibly be construed to be other than an image of a fingerprint. If the claims recited "predetermined image," then the Examiner's interpretation could possibly be upheld. However, this is not the case in this situation, and the Applicant strongly disagrees that "fingerprint image" could be interpreted as anything other than an image of a person's fingerprint.

Second, while claim language should be interpreted in light of the specification, elements specifically recited in the claim language cannot be construed to be removed from the

interpretation of the element by a reading of the specification in contrast with the ordinary meaning of the element and in contrast with the definition afforded the term in the specification. The term "fingerprint image" in its ordinary meaning would only possibly be construed by one of ordinary skill in the art as being an image of a user's fingerprint and could not possibly be construed to be, for example, an image of a PIN number.

Further, the specification, drawings, etc. all clearly articulate that a "fingerprint image" is only an image of a fingerprint and is not an image that may be associated with a fingerprint. M.P.E.P. § 2111 recites that claims must be "given their broadest reasonable interpretation consistent with the specification." It is unreasonable to one of ordinary skill in the art, and it is not consistent with the specification, to construe the term "fingerprint image" or "auxiliary fingerprint image" as "other predetermined images," where the other predetermined images may be images of PIN numbers, bank cards, etc. The claims recite "auxiliary fingerprint image." No other interpretation, other than being a type of fingerprint image, can be correctly construed to the term "auxiliary fingerprint image".

Therefore, as Ben-Aissa does not discuss or suggest "a fingerprint image storing part storing representative reference fingerprint images for at least two fingers of a user and at least one auxiliary reference fingerprint image for registered users; and a control part determining whether one of the representative reference fingerprint images matches a first input fingerprint image input through the fingerprint scan part, reading auxiliary reference fingerprint images corresponding to a matching representative reference fingerprint image, and comparing other fingerprint images input after the first input fingerprint image with the auxiliary reference fingerprint images to determine user authentication," as recited in amended independent claim 1, claim 1 patentably distinguishes over the reference relied upon. Accordingly, withdrawal of the § 102(b) rejection is respectfully requested.

Further, Ben-Aissa does not discuss or suggest "reading auxiliary reference fingerprint images corresponding to a matching representative reference fingerprint image; receiving additional fingerprint images sequentially input by the user; and determining whether the user is authenticated by respectively comparing the additional input fingerprint images with the corresponding auxiliary reference fingerprint images," as recited in independent claim 7. If the Examiner interprets the three additionally-captured images of the fingerprint to correspond with "auxiliary reference fingerprint images", then it is unclear as to how Ben-Aissa discloses receiving additional fingerprint images sequentially input by the user and comparing the additional fingerprint images with the three additional images captured prior to authentication.

Ben-Aissa includes no discussion of comparing sequentially input fingerprint images with the three additional fingerprint images that were entered and captured after the first fingerprint image was accepted. Therefore, claim 7 patentably distinguishes over the reference relied upon. Accordingly, withdrawal of the § 102(b) rejection is respectfully requested.

Claims 2, 3 and 8 depend either directly or indirectly from independent claims 1 and 7 and include all the features of their respective independent claims, plus additional features that are not discussed or suggested by the reference relied upon. For example, claim 3 recites, "a fingerprint registering part sequentially storing fingerprint images input through the fingerprint scan part by an unregistered user in the fingerprint image storing part, and displaying the stored fingerprint images of the unregistered user for the unregistered user to select one of the stored fingerprint images as the representative reference fingerprint image." Therefore, claims 2, 3 and 8 patentably distinguish over the reference relied upon for at least the reasons noted above. Accordingly, withdrawal of the § 102(a) rejection is respectfully requested.

## **II. Rejection under 35 U.S.C. § 103**

In the Office Action, at page 17, numbered paragraph 6, claims 4-6 and 9-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ben-Aissa and further in view of U.S. Patent No. 2002/0122026 to Bergstrom. This rejection is respectfully traversed.

As discussed above with respect to independent claim 1, from which claims 4-6 and 9-12 ultimately depend, Ben-Aissa does not discuss or suggest all the features of independent claim 1. Bergstrom fails to make up for the deficiencies in Ben-Aissa. Therefore, claim 1 patentably distinguishes over the references relied upon. Claims 4-6 and 9-12 depend either directly or indirectly from independent claims 1 and 7 and include all the features of their respective independent claims, plus additional features that are not discussed or suggested by the references relied upon. For example, claim 5 recites that, "the fingerprint scan part comprises multiple fingerprint input keys having order values sequentially selected by the unregistered user; and the fingerprint registering part stores a combination of input fingerprint images contacting the fingerprint input keys selected by the unregistered user and the order values in the fingerprint image storing part." Therefore claims 4-6 and 9-12 patentable distinguish over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of the § 103(a) rejection is respectfully requested.

## **III. Allowable Subject Matter**

Applicants are appreciative of the indication that claims 13 and 14 have been allowed.

**Conclusion**

In accordance with the foregoing, claim 1 has been amended. Claims 1-14 are pending and under consideration.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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